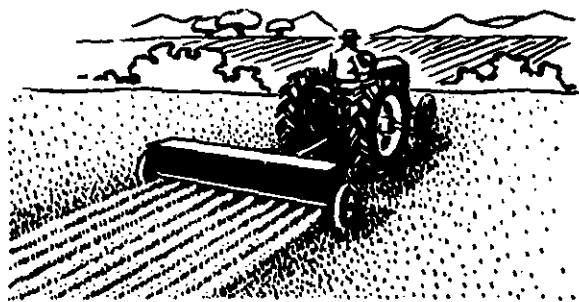


Consumption of



COMMERCIAL FERTILIZERS

By Class (Dry Bagged, Dry Bulk, Liquid)

in the United States

Year ended June 30, 1969



September 28, 1970

UNITED STATES DEPARTMENT OF AGRICULTURE
Statistical Reporting Service • Crop Reporting Board
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CONSUMPTION OF COMMERCIAL FERTILIZERS
By Class (Dry Bagged, Dry Bulk, Liquid) in the United States
Year Ended June 30, 1969

Bagged Fertilizer 35 Percent of Total Use

Dry bagged fertilizer was 35 percent of the total fertilizer used during the 1968-69 fertilizer year, according to the Crop Reporting Board. Total tonnage of bagged fertilizer applied by both farm and non-farm users amounted to 13.1 million tons. Mixed fertilizer purchased in bags totaled 9.9 million tons, about 47 percent of all mixed fertilizer. An estimated 3.2 million tons of fertilizer materials were purchased in bags -- 20 percent of all direct application materials containing one or more of the primary nutrients; nitrogen (N), phosphorous (P₂O₅), potassium (K₂O).

Dry Bulk Fertilizer 41 Percent

An estimated 15.2 million tons (41 percent of all fertilizer consumed) was applied in dry bulk form. About 8.8 million tons of mixed fertilizer were applied in dry bulk form. Dry bulk direct application materials totaled 6.4 million tons or 39 percent of all primary nutrient materials.

Liquid Fertilizer Represents 24 Percent

The application of fertilizer in liquid form increased 6 percent from 1968 and was 24 percent of all fertilizer used during the 1968-69 fertilizer year. Liquid fertilizer used either as a direct application material or as a mixture is estimated at 8.9 million tons for the year ended June 30, 1969. This is an increase of 0.5 million tons from the previous year. Mixed fertilizer used in the 48 contiguous States is placed at 2.2 million tons. Direct application fertilizer materials were 41 percent of the total primary nutrient materials applied. Liquid materials include anhydrous ammonia, aqua ammonia, nitrogen, phosphoric and potassic solutions and other miscellaneous liquid materials applied directly to the soil in liquid form.

Primary Nutrient Content of Liquids Higher

The primary nutrient content of both liquid mixtures and liquid direct application materials was higher in 1969 than the revised 1967-68 content. Average nutrient content of liquid mixed fertilizers was 31.2 percent compared with 30.1 a year earlier. Liquid materials averaged 53.8 percent primary nutrients compared with 52.7 percent the previous year.

Nearly 1.0 Percent of Fertilizer Contained Pesticide

Data from manufacturers indicate nearly 1.0 percent of the fertilizer used in the 1968-69 year contained pesticides. Unknown quantities of pesticide may have been added to fertilizer just prior to application.

NOTE: Tonnage and average analysis of liquid fertilizer were estimated from data supplied by fertilizer manufacturers and reports by State Departments of Agriculture.

Details on the following pages expand on totals published in "Consumption of Commercial Fertilizers in the United States for the year ended June 30, 1969." Total use includes all commercial fertilizer sold or shipped for farm and non-farm use as fertilizer. It does not include materials used for purposes other than fertilizer. These figures exclude the tonnage of secondary and micro-nutrient materials applied directly to the soil.

Table L--Mixtures: Consumption of mixed fertilizer, by class,
By States, year ended June 30, 1969

State and region	Mixtures			Percent of total mixtures		
	Dry	Dry	Liquid	Dry	Dry	Liquid
	bagged	bulk		bagged	bulk	
	1,000 tons			Percent		
New England	249.7	72.2	10.0	75	22	3
New York	379.3	133.3	5.2	73	26	1
New Jersey	147.3	41.5	4.0	76	22	2
Pennsylvania	342.0	146.6	34.0	65	28	7
Delaware	35.1	52.7	.9	40	59	1
Dist. of Columbia	6.7	.3	.0	94	6	2/
Maryland	169.3	112.9	7.2	59	39	2
West Virginia	39.1	6.4	1/	86	14	2/
Middle Atlantic	1,118.8	493.7	51.3	67	30	3
Virginia	393.3	221.3	53.0	59	33	8
North Carolina	911.5	287.8	58.0	72	23	5
South Carolina	349.2	285.7	31.4	52	43	5
Georgia	445.6	827.5	73.0	33	62	5
Florida	552.0	1,025.1	24.5	34	64	2
South Atlantic	2,651.6	2,647.4	239.9	48	48	4
Ohio	493.3	387.6	62.1	52	41	7
Indiana	482.7	379.3	232.5	44	35	21
Illinois	432.2	528.2	409.4	31	39	30
Michigan	296.4	262.8	15.6	51	46	3
Wisconsin	250.4	134.9	24.1	61	33	6
East North Central.....	1,955.0	1,692.8	743.7	45	38	17
Minnesota	299.7	431.3	49.2	39	55	6
Iowa	280.7	421.1	263.2	29	44	27
Missouri	337.3	465.7	146.1	36	49	15
North Dakota	106.9	71.3	17.2	55	36	9
South Dakota	31.2	43.0	30.2	30	41	29
Nebraska	69.8	124.1	82.4	25	45	30
Kansas	181.0	167.1	58.8	45	41	14
West North Central.....	1,306.6	1,723.6	647.1	35	47	18
Kentucky	385.8	150.0	7.2	71	28	1
Tennessee	413.8	194.8	14.8	67	31	2
Alabama	458.8	269.4	7.4	62	37	1
Mississippi	238.9	159.3	4.0	59	40	1
East South Central	1,497.3	773.5	33.4	65	34	1
Arkansas	143.8	175.7	21.5	42	52	6
Louisiana	170.6	91.9	30.6	58	31	11
Oklahoma	101.5	152.2	10.6	38	58	4
Texas	406.0	538.2	176.8	36	48	16
West South Central.....	821.9	958.0	239.5	41	47	12
Montana	22.2	37.9	1.1	36	62	2
Idaho	5.6	50.8	16.5	8	70	22
Wyoming	2.2	16.0	1.2	11	83	6
Colorado	14.7	55.3	16.5	17	64	19
New Mexico	10.8	13.2	4.8	37	46	17
Arizona	19.1	12.7	13.1	43	28	29
Utah	11.6	17.4	1/	40	60	2/
Nevada	1.6	1.7	.6	41	44	15
Mountain	87.8	205.0	53.8	25	59	16
Washington	32.9	76.6	20.9	25	59	16
Oregon	24.8	30.4	10.5	38	46	16
California	188.5	125.7	199.0	37	24	39
Pacific	246.2	232.7	230.4	35	33	32
48 States & D. C.....	9,934.9	8,798.9	2,249.1	47	42	11

1/ Less than 500 tons.
2/ Less than .5 percent.

Table 2.--Materials 1/: Consumption of direct application primary nutrient materials, by class, by States, year ended June 30, 1969

State and region	Materials			Percent of total materials		
	Dry	Dry	Liquid	Dry	Dry	Liquid
	bagged	bulk		bagged	bulk	
	-- 1,000 tons --			-- Percent --		
New England	40.1	10.6	4.0	73	20	7
New York	55.8	30.1	26.6	49	27	24
New Jersey	20.7	5.2	2.2	74	18	8
Pennsylvania	67.6	31.8	23.0	55	26	19
Delaware	4.8	4.4	12.2	22	21	57
Dist. of Columbia9	.1	.0	90	10	0
Maryland	14.9	12.2	23.1	30	24	46
West Virginia	16.8	1.9	3.1	77	9	14
Middle Atlantic	181.5	85.7	90.2	51	24	25
Virginia	34.1	51.2	74.3	21	32	47
North Carolina	95.0	48.9	225.5	26	13	61
South Carolina	71.1	21.3	147.5	30	9	61
Georgia	148.7	63.7	326.4	28	12	60
Florida	97.1	118.7	62.0	35	43	22
South Atlantic	446.0	303.8	835.7	28	19	53
Ohio	76.3	178.1	156.8	19	43	38
Indiana	60.2	274.3	421.1	8	36	56
Illinois	137.2	1,006.2	785.9	7	52	41
Michigan	44.6	104.1	69.6	20	48	32
Wisconsin	84.5	217.3	96.3	21	55	24
East North Central	402.8	1,780.0	1,529.7	11	48	41
Minnesota	85.5	341.8	335.8	11	45	44
Iowa	68.3	615.1	679.2	5	45	50
Missouri	44.7	178.7	188.9	11	43	46
North Dakota	55.8	68.2	25.3	37	46	17
South Dakota	9.9	89.0	56.4	7	57	36
Nebraska	33.3	204.5	540.6	4	26	70
Kansas	86.2	221.6	378.8	13	32	55
West North Central	383.7	1,718.9	2,205.0	9	40	51
Kentucky	98.6	102.6	67.1	37	38	25
Tennessee	114.1	23.4	64.0	57	11	32
Alabama	130.2	102.2	89.3	40	32	28
Mississippi	162.7	95.6	78.7	48	29	23
East South Central	505.6	323.8	299.1	45	29	26
Arkansas	83.6	102.2	49.6	36	43	21
Louisiana	71.1	86.9	52.2	34	41	25
Oklahoma	57.8	134.9	103.3	20	45	35
Texas	324.1	351.1	487.8	28	30	42
West South Central	536.6	675.1	692.9	28	36	36
Montana	29.3	68.3	12.8	27	62	12
Idaho	48.1	219.0	80.9	14	63	23
Wyoming	5.9	43.1	8.9	10	75	15
Colorado	21.6	86.3	56.8	13	52	35
New Mexico	9.8	22.9	33.5	15	34	51
Arizona	37.9	80.6	98.2	18	37	45
Utah	17.1	39.8	1.8	29	68	3
Nevada	5.1	3.1	1.1	55	33	12
Mountain	174.8	563.1	294.0	17	54	29
Washington	94.9	116.0	168.4	25	31	44
Oregon	83.2	154.5	65.1	27	51	22
California	359.7	668.1	503.5	23	44	33
Pacific	537.8	938.6	737.0	24	43	33
48 States & D. C.	3,208.9	6,399.6	6,687.6	20	39	41

1/ Includes anhydrous ammonia and aqua ammonia; nitrogen, phosphoric and potassic solution; and other miscellaneous liquid materials applied directly to the soil. Excludes secondary and micronutrient materials.

Table 3.--Total Fertilizers: Consumption of mixtures and direct application materials, by class, by States, year ended June 30, 1969

State and region	Mixtures and materials			Percent of total fertilizer		
	Dry bagged	Dry bulk	Liquid	Dry bagged	Dry bulk	Liquid
	1,000 tons			Percent		
New England	289.8	82.8	14.0	75	21	4
New York	435.1	163.4	31.8	69	26	5
New Jersey	168.0	46.7	6.2	76	21	3
Pennsylvania	409.6	178.4	57.0	63	28	9
Delaware	39.9	57.1	13.1	36	52	12
Dist. of Columbia	7.6	.4	.0	95	5	0
Maryland	184.2	125.1	30.3	54	37	9
West Virginia	55.9	8.3	3.1	83	12	5
Middle Atlantic	1,300.3	579.4	141.5	64	29	7
Virginia	427.4	272.5	127.3	52	33	15
North Carolina	1,006.5	336.7	283.5	62	21	17
South Carolina	420.3	307.0	178.9	46	34	20
Georgia	594.3	891.2	399.4	32	47	21
Florida	649.1	1,143.8	86.5	34	61	5
South Atlantic	3,097.6	2,951.2	1,075.6	44	41	15
Ohio	569.6	565.7	218.9	42	42	16
Indiana	542.9	653.6	653.6	30	35	35
Illinois	569.4	1,534.4	1,195.3	17	47	36
Michigan	341.0	366.9	85.2	43	46	11
Wisconsin	334.9	352.2	120.4	41	44	15
East North Central ..	2,357.8	3,472.8	2,273.4	29	43	28
Minnesota	385.2	773.1	385.0	25	50	25
Iowa	349.0	1,036.2	942.4	15	45	40
Missouri	382.0	644.4	335.0	28	47	25
North Dakota	162.7	139.5	42.5	47	41	12
South Dakota	41.1	132.0	86.6	16	51	33
Nebraska	103.1	328.6	623.0	10	31	59
Kansas	267.2	388.7	437.6	24	36	40
West North Central ..	1,690.3	3,442.5	2,852.1	21	43	36
Kentucky	484.4	252.6	74.3	60	31	9
Tennessee	527.9	218.2	78.8	64	26	10
Alabama	589.0	371.6	96.7	56	35	9
Mississippi	401.6	254.9	82.7	54	35	11
East South Central ..	2,002.9	1,097.3	332.5	58	32	10
Arkansas	227.4	277.9	71.1	40	48	12
Louisiana	241.7	178.8	82.8	48	36	16
Oklahoma	159.3	287.1	113.9	29	51	20
Texas	730.1	889.3	664.6	32	39	29
West South Central ..	1,358.5	1,633.1	932.4	35	41	24
Montana	51.5	106.2	13.9	30	62	8
Idaho	53.7	269.8	97.4	13	64	23
Wyoming	8.1	59.1	10.1	11	76	13
Colorado	36.3	141.6	73.3	15	56	29
New Mexico	20.6	36.1	38.3	22	38	40
Arizona	57.0	93.3	111.3	22	36	42
Utah	28.7	57.2	1.8	33	65	2
Nevada	6.7	4.8	1.7	51	36	13
Mountain	262.6	768.1	347.8	19	56	25
Washington	127.8	192.6	189.3	25	38	37
Oregon	108.0	184.9	75.6	29	50	21
California	548.2	793.8	702.5	27	39	34
Pacific	784.0	1,171.3	967.4	27	40	33
48 States & D. C.	13,143.8	15,198.5	8,936.7	35	41	24

Table 4.--Liquid fertilizer average analysis: Average primary-nutrient content of liquid fertilizers consumed as mixtures and materials, by States, year ended June 30, 1969 ^{1/}

State and region	Liquid mixtures				Liquid materials			
	N	: Available: P ₂ O ₅	K ₂ O	: Total N, : available: P ₂ O ₅ and K ₂ O	N	: Available: P ₂ O ₅	K ₂ O	: Total N, : available: P ₂ O ₅ and K ₂ O
New England	9.1	8.7	8.8	26.6	36.9	0	0	36.9
New York	8.1	9.6	8.0	25.7	44.6	0	0	44.6
New Jersey	6.2	12.3	13.2	31.7	38.6	0	0	38.6
Pennsylvania	9.0	10.6	7.7	27.3	36.0	0.5	0	36.5
Delaware	6.6	11.8	9.2	27.6	38.0	0	0	38.0
Dist. of Columbia	0.0	0.0	0.0	0.0	0	0	0	0.0
Maryland	6.4	11.1	8.4	25.9	38.6	0	0	38.6
West Virginia	11.0	7.3	5.8	24.1	33.8	0	0	33.8
Middle Atlantic	8.3	10.7	8.3	22.2	39.5	0.1	0	39.6
Virginia	5.8	7.3	11.2	24.3	30.6	0	0	30.6
North Carolina	4.2	7.6	11.4	23.2	34.0	0	0	34.0
South Carolina	5.9	7.2	10.7	23.8	29.0	0	0	29.0
Georgia	5.3	10.0	12.4	27.7	40.3	0	0	40.3
Florida	9.0	4.8	9.7	23.5	30.6	0	0	30.6
South Atlantic	5.6	7.9	11.4	24.9	35.0	0	0	35.0
Ohio	7.0	16.0	8.1	31.1	54.0	0.2	0	54.2
Indiana	8.3	16.0	12.0	36.3	50.5	0.1	0	50.6
Illinois	6.5	12.6	9.0	28.1	57.7	2.2	0	59.9
Michigan	7.1	17.2	9.5	33.8	53.6	0	0	53.6
Wisconsin	6.6	16.8	8.3	31.7	42.5	0	0	42.5
East North Central	7.1	14.1	9.8	31.0	54.2	1.2	0	55.4
Minnesota	6.8	18.3	8.7	33.8	66.8	0.1	0	66.9
Iowa	5.7	14.6	7.7	28.0	63.4	0.1	0	63.5
Missouri	7.4	9.5	9.0	25.9	61.1	0	0	61.1
North Dakota	9.5	27.8	2.8	40.1	41.7	0	0	41.7
South Dakota	10.5	23.7	3.6	37.8	49.0	0	0	49.0
Nebraska	8.6	26.4	3.4	38.4	62.6	0	0	62.6
Kansas	10.0	26.6	3.8	40.4	60.4	0	0	60.4
West North Central	7.2	17.1	6.8	31.1	62.4	0	0	62.4
Kentucky	8.0	16.4	7.1	31.5	52.6	0	0	52.6
Tennessee	7.8	22.1	5.0	34.9	45.8	0.1	0	45.9
Alabama	8.4	7.9	8.4	24.7	40.5	0	0	40.5
Mississippi	7.0	14.6	9.8	31.4	54.5	0.1	0	54.6
East South Central	7.9	16.8	6.8	31.5	48.0	0	0	48.0
Arkansas	9.8	7.0	8.2	25.0	43.7	0	0	43.7
Louisiana	8.2	17.7	7.7	33.6	58.2	0.8	0	59.0
Oklahoma	10.8	27.3	1.5	39.6	51.6	0.3	0	51.9
Texas	13.2	20.4	1.6	35.2	69.1	0.2	0	69.3
West South Central	12.2	19.2	3.0	34.4	63.8	0.2	0	64.0
Montana	10.0	32.8	0.2	43.0	22.1	21.0	0	43.1
Idaho	9.6	31.8	0.2	41.6	40.2	13.9	0	54.1
Wyoming	9.9	32.2	0.9	43.0	43.1	0	0	43.1
Colorado	9.7	32.3	1.0	43.0	65.0	2.2	0	67.2
New Mexico	10.7	30.2	0.6	41.5	65.6	0.7	0	66.3
Arizona	9.9	30.1	0.2	40.2	59.3	2.0	0	61.3
Utah	9.9	19.6	3.3	32.8	37.0	5.4	0	42.4
Nevada	10.2	12.6	4.4	27.2	78.8	0	0	78.8
Mountain	9.8	31.2	0.6	41.6	53.7	5.9	0	59.6
Washington	8.9	28.8	0.0	37.7	42.9	0.3	0	43.2
Oregon	9.1	30.3	0.0	39.4	33.6	0.3	0	33.9
California	8.2	24.0	0.2	32.4	36.0	1.4	0	37.4
Pacific	8.3	24.7	0.2	33.2	37.4	1.0	0	38.4
48 States & D. C. ...	7.8	16.3	7.1	31.2	53.1	0.7	0	53.8
Revised 1968	7.1	16.0	7.0	30.1	---	---	---	---

^{1/} U. S. 1968 liquid mixtures percentages revised.

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